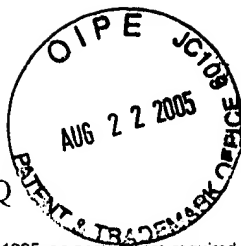


Doc Code: AP.PRE.REQ



PTO/SB/33 (07-05)

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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

42390P11959

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]

on August 18, 2005

Signature

Typed or printed

name Katherine Jennings

Application Number

09/917,476

Filed

July 27, 2001

First Named Inventor

Tinku Acharya

Art Unit

2621

Examiner

Sherali Ishrat

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

☐

applicant/inventor.

☐

assignee of record of the entire interest.

See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)☒

attorney or agent of record.

Registration number 39,926☐

attorney or agent acting under 37 CFR 1.34.

Registration number if acting under 37 CFR 1.34 _____

Signature

Gregory D. Caldwell

Typed or printed name

(503)439-8778

Telephone number

August 18, 2005

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.
Submit multiple forms if more than one signature is required, see below*.

☐

*Total of _____ forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Pre-Appeal Brief Request for Review

Application No. 09/917,476
Attorney Docket: 42390.P11959

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Acharya, Tinku

Serial No.: 09/917,476

Filed: July 27, 2001

For: Method and Apparatus for Image Scaling

Examiner: Ishrat, Sherali

Group Art Unit: 2621

Pre-Appeal Brief Request for Review

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In response to the Final Office Action of April 21, 2005, please consider the following pre-appeal brief request for review for the above-identified application.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313 on:

August 18, 2005

- Date of Deposit

Katherine Jennings

Name of Person Mailing Correspondence

Katherine Jennings

Signature

August 18, 2005

Date

All pending claims stand rejected under 35 U.S.C. §102(b) as being anticipated by Reisch et al. (U.S. Patent No: 5,168,375; "Reisch"). During prosecution, Applicant has consistently argued that the Examiner has failed to establish that Reisch discloses all claim elements recited in the independent claims 1, 8, and 15 as needed to maintain a *prima facie* §102(b) rejection.

Claim 1 relates to a method for upscaling a decompressed image. Applicant has consistently asserted that Reisch fails to disclose "multiplying frequency domain coefficients for the decompressed image by a scale factor to achieve a desired amount of image upscaling" as recited in claim 1. Claims 8 and 15 recite similar elements.

To clarify matters, Applicant wishes to draw attention to the application's detailed description where an example implementation of the invention for scaling an 8x8 DCT image block to a 16x16 block DCT image block is provided. (Application; page 8, last paragraph). This example of image scaling may be described as a 2:1 image up-scaling where a scaling factor $k = M/N = 16/8 = 2$ may be employed. In this example the up-scaling may be accomplished by multiplying all DCT coefficients in the 8x8 block by the scaling factor $k (= 2)$ and padding the 8x8 block with sufficient zeros (e.g., adding 8 extra rows and 8 extra columns of 0's) to form a 16x16 block.

Reisch does disclose a method for image data interpolation. Specifically, Reisch discloses that interpolation is achieved by "modification of the DCT array by the insertion of additional row(s) and/or column(s), and padding the additional row(s) and/or column(s) with zeros." (Reisch; Col. 17, lines 18-21). However, Reisch does *not* disclose that image interpolation is achieved by multiplying frequency domain coefficients for the decompressed image by a scale factor to achieve a desired amount of image up-scaling as would be required to support a *prima facie* rejection. Thus, while Applicant notes that while the terms "interpolation" and "up-scaling" are often used interchangeably in the field of image processing, the interpolation disclosed by Reisch plainly does not anticipate the elements recited in claim 1.

Reisch also discloses a method for image data sharpening. Specifically, Reisch discloses that "convolution is accomplished by multiplication in the frequency domain employing the DCT by use of a procedure wherein individual ones of the 8-by-8 blocks of data samples are selected...to be processed

Pre-Appeal Brief Request for Review

Application No. 09/917,476

Attorney Docket: 42390.P11959

sequentially by the filter kernel.” (Reisch; Col. 17, lines 41-47). However, Reisch does not disclose that the multiplicative convolution with a filter kernel is undertaken to achieve image up-scaling.

Thus, Applicant asserts that Reisch discloses *distinct* interpolation and sharpening processes using zero padding to achieve image interpolation and multiplicative convolution with a filter kernel to achieve image sharpening. With all due respect to the Examiner, Applicant has consistently argued that the Examiner is confusing Reisch’s sharpening process with Reisch’s interpolation process. For example, the Examiner maintains that “Reisch is upscaling the resolution [sharpening] of decompressed image as shown in figure 1 and col. 17, lines 37-40, Reisch shows filtering is accomplished to obtain sharpened image [upscaled image]...” (Final Office Action; page 3). Applicant respectfully asserts that the Examiner’s interpretation of sharpening as “upsampling” is neither in keeping with Reisch’s disclosure regarding sharpening nor is it consonant with the ordinary meaning of either image sharpening or image up-scaling. Plainly stated, image sharpening is not image up-scaling. Image up-scaling adds pixels to an image (i.e., increases the scale or resolution of the image) whereas image sharpening amounts to subjecting the existing image pixel data to low-pass filtering and does not add pixels to an image.

Thus, at a minimum the rejection is clearly erroneous because the Examiner has failed to show how or where Reisch discloses that image up-scaling is achieved by multiplying the DCT coefficients by a scale factor as would be required to support such a *prima facie* rejection. The Examiner has relied solely on Reisch’s disclosure of DCT convolution with a sharpening filter kernel to anticipate this claim element. (Final Office Action; page 3). But, Reisch clearly discloses that convolution with a filter kernel is undertaken for image sharpening and not for image interpolation. Hence, Reisch does not disclose that convolution with a filter kernel is undertaken “to achieve a desired amount of image upscaling” as claimed.

Pre-Appeal Brief Request for Review

Application No. 09/917,476
Attorney Docket: 42390.P11959

In conclusion, Applicant maintains that the Examiner has failed to maintain a *prima facie* rejection under §102(b) and thus allowance of all the claims is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'R. D. Hinchliffe', with a stylized, cursive script.

Robert D. Hinchliffe
Patent Agent
Intel Corporation
Reg. No. 55,268

Dated: August 15, 2005

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